

AD-A234 991



①

Response Latency Measures for Biographical Inventories

Lawrence J. Stricker

Educational Testing Service

David L. Alderton

Navy Personnel Research
and Development Center

Final Report

February 1991



This report was prepared under the Navy Manpower, Personnel, and Training R & D Program of the Office of the Chief of Naval Research under Contract N00014-89-K-0072. Reproduction in whole or part is permitted for any purpose of the United States Government. Approved for public release; distribution unlimited.

91 4 18 048

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE				Form Approved OMB No 0704-0188	
1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
4. PERFORMING ORGANIZATION REPORT NUMBER(S)					
6a. NAME OF PERFORMING ORGANIZATION Educational Testing Service		6b. OFFICE SYMBOL (If applicable)		7a. NAME OF MONITORING ORGANIZATION Cognitive Science Program Office of Naval Research (Code 1142CS)	
6c. ADDRESS (City, State, and ZIP Code) Princeton, NJ 08541		7b. ADDRESS (City, State, and ZIP Code) 800 North Quincy Street Arlington, VA 22217-5000			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER N0014-89-K-0072	
8c. ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS			
		PROGRAM ELEMENT NO 0602233N		PROJECT NO RM33M20	WORK UNIT ACCESSION NO
11. TITLE (Include Security Classification) Response Latency Measures for Biographical Inventories (Unclassified)					
12. PERSONAL AUTHOR(S) Stricker, Lawrence J. Alderton, David L. Educational Testing Service Navy Personnel Research and Development Center					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM 3/31/89 TO 12/31/90		14. DATE OF REPORT (Year, Month, Day) 1991, February 28	
				15. PAGE COUNT 6	
16. SUPPLEMENTARY NOTATION Supported by the Office of the Chief of Naval Research Manpower, Personnel, and Training R & D Program					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	*Response latencies, *inventories, *attrition, screening recruits, Armed Services Adaptability Profile		
05	09				
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
<p>This is the final report of the project, "Response Latency Measures for Biographical Inventories." The purpose of this research was to determine whether recent findings about the connection between response latencies in personality inventory items and item instability can be used to increase an inventory's validity. A study was carried out, using latency-weighted scores and measures of deviant latencies for the Armed Services Applicant Profile, a biographical inventory, to predict the retention of Navy recruits. The latency data did not improve the ASAP's validity directly, but there were indications that employing these data in developing an inventory may enhance validity indirectly. The technical report for this project is summarized, the staff is listed, and directions for future research are outlined.</p>					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> OTHER USES			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL Charles E. Davis			22b. TELEPHONE (Include Area Code) 703-696-4046		22c. OFFICE SYMBOL ONR 1142CS

Abstract

This is the final report of the project, "Response Latency Measures for Biographical Inventories." The purpose of this research was to determine whether recent findings about the connection between response latencies on personality inventory items and item instability can be used to increase a test's validity. A study was carried out, using latency-weighted scores and measures of deviant latencies for the Armed Services Applicant Profile, a biographical inventory, to predict the retention of Navy recruits. The latency data did not improve the ASAP's validity directly, but there were indications that employing these data in developing an inventory may enhance validity indirectly. The technical report for this project is summarized, the staff is listed, and directions for future research are outlined.

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

Response Latency Measures for Biographical Inventories

The purpose of this research was to determine whether recent findings about the connection between response latencies on personality inventory items and item instability can be used to improve a test's validity (Dunn, Lushene, & O'Neil, 1972; Fekken & Jackson, 1988; Holden & Fekken, 1990; Holden, Fekken, & Jackson, 1985; Rogers, 1973). A study was carried out with the Armed Services Applicant Profile (ASAP; Trent, Quennette, & Pass, 1999), a biographical inventory intended for use in screening enlisted personnel for adaptability to military service. The ability of latency-weighted scores to predict retention and the ability of measures of deviant latencies to function as suppressor or moderator variables were appraised.

Abstract of Technical Report

The technical report, "Response Latency Measures for Biographical Inventories" (Stricker & Alderton, 1991) is summarized below:

This study assessed the usefulness of response latency data for biographical inventory items in improving the test's validity. The ASAP was computer administered to Navy recruits, and the regular score, latency-weighted scores, and measures of deviant latencies were obtained. The latency-weighted scores did not improve the ASAP's validity in predicting six-month retention, when used instead of or in addition to the regular score, and the measures of deviant latencies did not function as suppressor or moderator variables to improve the ASAP's validity. But subgroups of items with different latencies varied systematically in their internal-consistency reliability (with increased reliability for subgroups with shorter latencies), and a small subgroup of items with moderate latencies was almost as valid as the regular score. These findings suggest that latency data may be useful in writing and selecting inventory items.

Project Personnel

The project personnel follow:

Lawrence J. Stricker, Principal Investigator.

David L. Alderton, Co-Principal Investigator.

Lucient C. Chan, programmer.

Thomas Sheridan, programmer

Annette Turner, programmer.

Michael Alvarez, research assistant.

Mark Knapp, research assistant.

Presentations

Stricker, L. J. (1990, November). Response latency measures for biographical inventories. Briefing given to ONR MPT Committee, Arlington, VA.

Future Research Directions

Follow-up research might take several directions.

1. A replication and extension of the present study is needed. The primary focus would be on (a) the comparative and incremental validity of the latency-based measures vis-a-vis standard measures and (b) the unexpected finding that both reliability and validity appeared to be lower for items with either very long or very short latencies.

Three kinds of extensions are in order. One would be to use a more predictable criterion than six-month retention. Thirty-six month retention is one possible criterion, for it is appreciably more predictable than six-month retention ($r = .27$ vs. $.18$ to $.20$; Trent, 1989; Trent, personal communication, August 1986). Other suitable criteria for the ASAP might be disciplinary records, promotions, and recommendations for re-enlistment.

Another extension would be to employ other kinds of inventories. Homogeneous biographical or personality inventories would be obvious possibilities, perhaps less problematic than heterogeneous biographical inventories, like the ASAP.

A third extension would be to use populations for which selection and classification are critical because of the difficulty of recruiting qualified personnel, the expense of training them, or the sensitivity of their duties, and hence even modest improvements in the validity of assessments are of considerable importance.

2. Efforts should be made to partition response latencies into the time consumed in each stage in responding to inventory items (Kuncel, 1973; Rogers, 1974a, 1974b) because each of these times may have different psychological implications. Experimental manipulation of the item properties and stages in responding is critical in this research.

3. Situational influences that affect the importance of response latencies require investigation. Faking studies that simulate the demand characteristics of the operational use of inventories in selection would be feasible and relevant.

4. Psychometric research into optimal methods for weighting individual items and for grouping items by their latencies is called for. Two questions that need resolution are (a) the efficacy of weighting individual items vs. grouping items and (b) the value of assigning minimal weights to items with very long latencies vs. assigning minimal weights to items with either very long or very short latencies.

5. Research into other approaches to using response latency information to improve inventory validity is essential. Recent studies have established

the incremental validity of latency scores for personality inventory scales when combined with the regular scores for the scales (Fekken, 1990; Holden, Fekken, & Cotton, in press; Mervielde, 1988; Popham & Holden, 1990). This line of work is extremely promising and needs to be pursued in real-life operational situations.

6. Investigations of the usefulness of latency data in writing and selecting inventory items are needed. These would include correlational studies that compare the validity of items selected with latency data and items chosen with conventional methods, as well as experimental studies that manipulate latencies, by altering item length and other characteristics, and then assess differences in the items' validity.

References

- Dunn, T. G., Lushene, R. E., & O'Neil, H. F., Jr. (1972). Complete automation of the MMPI and a study of its response latencies. Journal of Consulting and Clinical Psychology 39, 381-387.
- Fekken, G. C. (1990, August). Using item response latencies to assess psychopathology. Paper presented at the meeting of the American Psychological Association, Boston, MA.
- Fekken, G. C., & Jackson, D. N. (1988). Predicting consistent psychological test item responses: A comparison of models. Personality and Individual differences, 19, 873-882.
- Holden, R. R., & Fekken, G. C. (1990). Structured psychopathological test item characteristics and validity. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2, 35-40.
- Holden, R. R., Fekken, G. C., & Cotton, D. H. G. (in press). Assessing psychopathology using structured test item response latencies. Psychological Assessment: A Journal of Consulting and Clinical Psychology.
- Kuncel, R. B. (1973). Response processes and relative location of subject and item. Educational and Psychological Measurement, 33, 545-563.
- Mervielde, I. (1988). Cognitive processes and computerized personality assessment. European Journal of Personality, 2, 97-111.
- Popham, S. M., & Holden R. R. (1990). Assessing MMPI constructs through the measurement of response latencies. Journal of Personality Assessment, 54, 469-478.
- Rogers, T. B. (1973). Toward a definition of the difficulty of a personality item. Psychological Reports. 33, 159-166.

- Rogers, T. B. (1974a). An analysis of the stages underlying the process of responding to personality items. Acta Psychologica, 38, 205-214.
- Rogers, T. B. (1974b). An analysis of two central stages underlying responding to personality items: The self-referent decision and response selection. Journal of Research in Personality, 8, 128-138.
- Stricker, L. J., & Alderton, D. L. (1991). Response latency measures for biographical inventories (Technical Report; OCNR N00014-89-K-0072). Princeton, NJ: Educational Testing Service.
- Trent, T. (1989). The Adaptability Screening Profile: Technical issues. Proceedings of the 31st Annual Conference of the Military Testing Association, 428-433.
- Trent, T., Quennette, M. A., & Pass, J. J. (1989, August). An old-fashioned biographical inventory. Paper presented at the meeting of the American Psychological Association, New Orleans, LA.

Distribution List

Dr. Terry Ackerman
Educational Psychology
210 Education Bldg.
University of Illinois
Champaign, IL 61801

Technical Director,
Air Force Human Resources Lab
Brooks AFB, TX 78236-5601

Personnel Analysis Division,
AF/MPXA
5C360, The Pentagon
Washington, DC 20330

Dr. James Algina
1403 Norman Hall
University of Florida
Gainesville, FL 32605

Dr. Erling B. Andersen
Department of Statistics
Studiestraede 6
1455 Copenhagen
DENMARK

Technical Director, ARJ
5001 Eisenhower Avenue
Alexandria, VA 22333

Dr. Ronald Armstrong
Rutgers University
Graduate School of Management
Newark, NJ 07102

OASD(Manpower & Reserve Affairs)
5D800, The Pentagon
Washington, DC 20350-1000

Dr. Eva L. Baker
UCLA Center for the Study
of Evaluation
145 Moore Hall
University of California
Los Angeles, CA 90024

Dr. Laura L. Barnes
College of Education
University of Toledo
2801 W. Bancroft Street
Toledo, OH 43606

Dr. William M. Bart
University of Minnesota
Dept. of Educ. Psychology
330 Burton Hall
178 Pillsbury Dr., S.E.
Minneapolis, MN 55455

Dr. Isaac Bejar
Law School Admissions
Services
P.O. Box 40
Newtown, PA 18940-0040

Dr. Ira Bernstein
Department of Psychology
University of Texas
P.O. Box 19528
Arlington, TX 76019-0528

Dr. Thomas G. Bever
Department of Psychology
University of Rochester
River Station
Rochester, NY 14627

Dr. Menucha Birenbaum
School of Education
Tel Aviv University
Ramat Aviv 69978
ISRAEL

Dr. Bruce Blossom
Defense Manpower Data Center
99 Pacific St.
Suite 155A
Monterey, CA 93943-3231

Cdt. Arnold Bohrer
Sectie Psychologisch Onderzoek
Rekruterings-En Selectiecentrum
Kwartier Koningen Aalid
Bruijstraat
1120 Brussels, BELGIUM

Naval Supply Systems Command
NAVSUP 5512
ATTN: Sandra Borden
Washington, D.C. 20376-5000

Dr. Robert Breux
Code 252
Naval Training Systems Center
Orlando, FL 32826-3224

Dr. Robert Brennan
American College Testing
Programs
P. O. Box 168
Iowa City, IA 52243

Dr. Gregory Candell
CTB/McGraw-Hill
2500 Garden Road
Monterey, CA 93940

Dr. Pat Carpenter
Carnegie-Mellon University
Department of Psychology
Pittsburgh, PA 15213

Dr. John B. Carroll
409 Elliott Rd., North
Chapel Hill, NC 27514

Dr. John M. Carroll
IBM Watson Research Center
User Interface Institute
P.O. Box 704
Yorktown Heights, NY 10598

Dr. Robert M. Carroll
Chief of Naval Operations
OP-01B2
Washington, DC 20350

Dr. Raymond E. Christal
UES LAMP Science Advisor
AFHRL/MOEL
Brooks AFB, TX 78235

Mr. Hua Hua Chung
University of Illinois
Department of Statistics
101 Illini Hall
725 South Wright St.
Champaign, IL 61820

Dr. Norman Cliff
Department of Psychology
Univ. of So. California
Los Angeles, CA 90089-1061

Director, Manpower Program
Center for Naval Analyses
4401 Ford Avenue
P.O. Box 16268
Alexandria, VA 22302-0268

Director,
Manpower Support and
Readiness Program
Center for Naval Analyses
4401 Ford Avenue
Alexandria, VA 22302-0268

Dr. Stanley Collier
Office of Naval Technology
Code 222
800 N. Quincy Street
Arlington, VA 22217-5000

Dr. Hans F. Crombag
Faculty of Law
University of Limburg
P.O. Box 616
Maastricht
The NETHERLANDS 6200 MD

Ms. Carolyn R. Crone
Johns Hopkins University
Department of Psychology
Charles & 34th Street
Baltimore, MD 21218

Dr. Timothy Davey
American College Testing Program
P.O. Box 168
Iowa City, IA 52243

Dr. C. M. Dayton
Department of Measurement
Statistics & Evaluation
College of Education
University of Maryland
College Park, MD 20742

Dr. Ralph J. DeAvala
Measurement, Statistics,
and Evaluation
Benjamin Bldg., Rm. 4112
University of Maryland
College Park, MD 20742

Dr. Lou DiBello
CERL
University of Illinois
103 South Mathews Avenue
Urbana, IL 61801

Dr. Dattprasad Dvrg
Center for Naval Analyses
4401 Ford Avenue
P.O. Box 16268
Alexandria, VA 22302-0268

Chief, Survey and Market
Analysis Division
Defense Manpower Data Center
1600 Wilson Blvd., #400
Arlington, VA 22209

Dr. Stephanie Doane
Institute of Cognitive Science
Campus Box 200
Boulder, CO 80309-0345

Mr. Hei-Ki Dong
Bell Communications Research
Room PYA-1K207
P.O. Box 1320
Piscataway, NJ 08855-1320

Dr. Fritz Drasgow
University of Illinois
Department of Psychology
603 E. Daniel St.
Champaign, IL 61820

Defense Technical
Information Center
Cameron Station, Bldg 5
Alexandria, VA 22314
(2 Copies)

Dr. Stephen Dunbar
224B Lindquist Center
for Measurement
University of Iowa
Iowa City, IA 52242

Dr. James A. Eames
Air Force Human Resources Lab
Brooks AFB, TX 78235

Dr. Susan Embreson
University of Kansas
Psychology Department
426 Fraser
Lawrence, KS 66044

Dr. George Engstendar, Jr.
Division of Educational Studies
Emory University
210 Fishburne Bldg.
Atlanta, GA 30322

ERIC Facility Acquisitions
2440 Research Bldg, Suite 550
Rockville, MD 20850-3238

Dr. Benjamin A. Furbank
Operational Technologies Corp
5825 Callaghan, Suite 225
San Antonio, TX 78226

Dr. Marshall J. Farr, Consultant
Cognitive & Instructional Sciences
2520 North Vernon Street
Arlington, VA 22227

Dr. P.A. Federick
Code 51
NPRDC
San Diego, CA 92162-6800

Dr. Leonard Feld
Lindquist Center
for Measurement
University of Iowa
Iowa City, IA 52242

Dr. Paul Feltonch
Southern Illinois University
School of Medicine
Medical Education Department
P.O. Box 3926
Springfield, IL 62768

Dr. Richard L. Ferguson
American College Testing
P.O. Box 168
Iowa City, IA 52242

Dr. Gerhard Fischer
Luebiggasse 5/3
A 1010 Vienna
AUSTRIA

Dr. Myron Fischl
U.S. Army Headquarters
DAPE-MRR
The Pentagon
Washington, DC 20310-0300

Prof. Donald Fitzgerald
University of New England
Department of Psychology
Armidale, New South Wales 2351
AUSTRALIA

Mr. Paul Foley
Navy Personnel R&D Center
San Diego, CA 92162-6800

Dr. Alfred R. Frey
AFOSR/NL Bldg. 410
Bolling AFB, DC 20332-6448

Dr. M-g Gerrard
Psychology Department
Iowa State University
Ames, IA 50010

Dr. Robert D. Gibbons
Illinois State Psychiatric Inst.
Rm 529W
1601 W. Taylor Street
Chicago, IL 60612

Dr. Janice Gifford
University of Massachusetts
School of Education
Amherst, MA 01003

Dr. Drew Gitomer
Educational Testing Service
Princeton, NJ 08541

Dr. Robert Glaser
Learning Research
& Development Center
University of Pittsburgh
3939 O'Hara Street
Pittsburgh, PA 15260

Dr. Clark Glymour
Department of Philosophy
Carnegie-Mellon University
Pittsburgh, PA 15213

Dr. Timothy Goldsmith
Department of Psychology
University of New Mexico
Albuquerque, NM 87131

Dr. Sherrie Gott
AFHRL/MOMJ
Brooks AFB, TX 78235-5601

Dr. T. Govindaraj
Georgia Institute of
Technology
School of Industrial
and Systems Engineering
Atlanta, GA 30332-0205

Dr. Bert Green
Johns Hopkins University
Department of Psychology
Charles & 34th Street
Baltimore, MD 21218

Michael Habon
DORNIER GMBH
P.O. Box 1420
D-7990 Friedrichshafen 1
WEST GERMANY

Prof. Edward Haertel
School of Education
Stanford University
Stanford, CA 94305

Dr. Ronald K. Hambleton
University of Massachusetts
Laboratory of Psychometric
and Evaluation Research
Hills South, Room 152
Amherst, MA 01003

Dr. Dehym Hamach
University of Illinois
51 Gerry Drive
Champaign, IL 61820

Dr. Grant Henning
Senior Research Scientist
Division of Measurement
Research and Services
Educational Testing Service
Princeton, NJ 08541

Ms. Rebecca Hetter
Navy Personnel R&D Center
Code 63
San Diego, CA 92162-6800

Dr. Thomas M. Hirsch
ACT
P. O. Box 168
Iowa City, IA 52243

Dr. Paul W. Holland
Educational Testing Service, 21-T
Rosedale Road
Princeton, NJ 08541

Dr. Paul Horst
677 G Street, #184
Chula Vista, CA 92010

Ms. Julia S. Hough
Cambridge University Press
40 West 20th Street
New York, NY 10011

Dr. William Howell
Chief Scientist
AFHRL/CA
Brooks AFB, TX 78235-5601

Headquarters U.S. Marine Corps
Code MA
Washington, DC 20380-0001

Dr. Lloyd Humphreys
University of Illinois
Department of Psychology
603 East Daniel Street
Champaign, IL 61820

Dr. Steven Hunka
3-104 Educ. N.
University of Alberta
Edmonton, Alberta
CANADA T6G 2G5

Dr. Huynh Huynh
College of Education
Univ. of South Carolina
Columbia, SC 29208

Director
Instructional Development &
Educational Program Support Dept.
NETPMSA
Pensacola, FL 32509

Dr. Robert Jannarone
Elec. and Computer Eng. Dept.
University of South Carolina
Columbia, SC 29208

Dr. Kumar Joag-dev
University of Illinois
Department of Statistics
101 Illini Hall
725 South Wright Street
Champaign, IL 61820

Prof. David W. Johnson
Cooperative Learning Center
University of Minnesota
150 Pillsbury Drive, S.E.
Minneapolis, MN 55455

Dr. Peder Johnson
Department of Psychology
University of New Mexico
Albuquerque, NM 87131

Dr. William B. Johnson
Search Technology, Inc.
4725 Peachtree Corners Circle
Norcross, GA 30092

Dr. Douglas H. Jones
1280 Woodfern Court
Toms River, NJ 08753

Dr. Brian Junker
Carnegie-Mellon University
Department of Statistics
Schenley Park
Pittsburgh, PA 15213

Dr. Michael Kaplan
Office of Basic Research
U.S. Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333-5600

Dr. Martin S. Katz
European Science Coordination
Office
U.S. Army Research Institute
Box 65
FPO New York 09510-1500

Prof. John A. Keats
Department of Psychology
University of Newcastle
N.S.W. 2308
AUSTRALIA

Dr. Jeffery L. Kennington
School of Engr. & Applied Sciences
Southern Methodist University
Dallas, TX 75275

Dr. Jwa-keun Kim
Department of Psychology
Middle Tennessee State
University
P.O. Box 522
Murfreesboro, TN 37132

Dr. Soon-Hoon Kim
Kedi
92-6 Uryu-dong
Seocho-Gu
Seoul
SOUTH KOREA

Dr. G. Gage Kingsbury
Portland Public Schools
Research and Evaluation Department
501 North Duon Street
P.O. Box 3107
Portland, OR 97209-3107

Dr. William Koch
Box 7246, Meas. and Eval. Ctr.
University of Texas-Austin
Austin, TX 78703

Dr. Richard J. Koubek
Department of Biomedical
& Human Factors
139 Engineering & Math Bldg.
Wright State University
Dayton, OH 45435

Dr. Leonard Kroeker
Navy Personnel R&D Center
Code 62
San Diego, CA 92152-6800

Dr. Jerry Lehnus
Defense Manpower Data Center
Suite 400
1400 Wilson Blvd
Rosslyn, VA 22209

Dr. Thomas Leonard
University of Wisconsin
Department of Statistics
1210 West Dayton Street
Madison, WI 53705

Dr. Michael Levine
Educational Psychology
210 Education Bldg.
University of Illinois
Champaign, IL 61801

Dr. Charles Lewis
Educational Testing Service
Princeton, NJ 08541-0001

Library
Naval Training Systems Center
Orlando, FL 32813

Library
Naval War College
Newport, RI 02940

Science and Technology Division
Library of Congress
Washington, DC 20540

Mr. Rodney Lim
University of Illinois
Department of Psychology
603 E. Daniel St.
Champaign, IL 61820

Dr. Robert L. Linn
Campus Box 249
University of Colorado
Boulder, CO 80309-0249

Dr. Robert Lockman
Center for Naval Analysis
4401 Ford Avenue
P.O. Box 16268
Alexandria, VA 22302-0268

Dr. Frederic M. Lord
Educational Testing Service
Princeton, NJ 08541

Dr. Richard Luecht
ACT
P.O. Box 168
Iowa City, IA 52243

Dr. George B. Macready
Department of Measurement
Statistics & Evaluation
College of Education
University of Maryland
College Park, MD 20742

Dr. Gary Marco
Stop 31-E
Educational Testing Service
Princeton, NJ 08541

Dr. Clesser J. Martin
Office of Chief of Naval
Operations (OP 13 F)
Navy Annex, Room 2832
Washington, DC 20350

Dr. James R. McBride
HumRRO
6430 Elmhurst Drive
San Diego, CA 92120

Dr. Clarence C. McCormick
HQ, USMPCOM/MEPCT
2500 Green Bay Road
North Chicago, IL 60064

Mr. Christopher McCusker
University of Illinois
Department of Psychology
603 E. Daniel St.
Champaign, IL 61820

Dr. Robert McKinley
Educational Testing Service
Princeton, NJ 08541

Mr. Alan Mead
c/o Dr. Michael Levine
Educational Psychology
210 Education Bldg.
University of Illinois
Champaign, IL 61801

Dr. George A. Miller
Dept. of Psychology
Green Hall
Princeton University
Princeton, NJ 08540

Dr. Timothy Miller
ACT
P.O. Box 168
Iowa City, IA 52243

Dr. Robert Mislevy
Educational Testing Service
Princeton, NJ 08541

Dr. William Montague
NPRDC Code 13
San Diego, CA 92152-6800

Ms. Kathleen Moreno
Navy Personnel R&D Center
Code 62
San Diego, CA 92152-6800

Headquarters Marine Corps
Code MPI-20
Washington, DC 20380

Dr. Ratna Nandakumar
Educational Studies
Willard Hall, Room 213E
University of Delaware
Newark, DE 19716

Director, Research & Analysis Div.
Navy Recruiting Command (Code 223)
4015 Wilson Blvd., Room 215
Arlington, VA 22203-1991

Deputy Director Manpower,
Personnel and Training Div.
Naval Sea Systems Command
ATTN: Code CEL-MP63
Washington, DC 20362

Technical Director,
Navy Health Research Ctr.
P.O. Box 85122
San Diego, CA 92138

Head, Leadership Branch
Naval Military Personnel Command
ATTN: LCDR E. Manis, NMPC-621
Department of the Navy
Washington, DC 20370-2000

Director, Rec. Services Dept.
Naval Military Personnel Command
N-651C
1300 Wilson Blvd., Room 932
Arlington, VA 22209

Naval Ocean Systems Center
Command Support Technology Division
Attn: Mr. J. Grossman, Code 4402
Bldg. 334
San Diego, CA 92152-5000

Head, Fleet Liaison Department
NPRDC (Code 03)
San Diego, CA 92152-6800

Head, Manpower Systems Department
NPRDC (Code 11)
San Diego, CA 92152-6800

Head, Personnel Systems Department
NPRDC (Code 12)
San Diego, CA 92152-6800

Head, Testing Systems Department
NPRDC (Code 13)
San Diego, CA 92152-6800

Head, Training Systems Department
NPRDC (Code 14)
San Diego, CA 92152-6800

Head, Training Technology Department
NPRDC (Code 15)
San Diego, CA 92152-6800

Commanding Officer,
Navy Personnel R&D Center
San Diego, CA 92152-6800

Library, NPRDC
Code P201L
San Diego, CA 92152-6800

Technical Director,
Navy Personnel R&D Center
San Diego, CA 92152-6800

Librarian
Naval Center for Applied Research
in Artificial Intelligence
Naval Research Laboratory
Code 5510
Washington, DC 20375-5000

Commanding Officer,
Naval Research Laboratory
Code 2627
Washington, DC 20390

Naval School of Health Sciences
National Naval Medical Center
Bldg. 141
ATTN: CDR J.M. LaRocco
Washington, DC 20814-5033

Head, Human Factors Laboratory
Naval Training Systems Center
Code 71
Orlando, FL 32813-7100

Attn: Dr. David E. Daniel
Deputy Director, R&D Department
NTSC (Code 7A)
12350 Research Parkway
Orlando, FL 32826-3224

Academic Progs. & Research Branch
Naval Technical Training Command
Code N-625
NAS Memphis (75)
Millington, TN 38054

Dr. Harold F. O'Neil, Jr.
School of Education - WPH 801
Department of Educational
Psychology & Technology
University of Southern California
Los Angeles, CA 90089-0031

Director, Applied Research Division
Code 121
OCNR
Arlington, Va 22217-5000

Chairman, MPT R&D Committee
Office of the Chief
of Naval Research (Code 222)
800 N. Quincy Street
Arlington, VA 22217-5000

Dr. James B. Olsen
WICAT Systems
1875 South State Street
Orem, UT 84058

Director of Research Programs
Office of Naval Research (Code 11)
800 North Quincy Street
Arlington, VA 22217-5000

Program Manager, Statistics and
Probability (Code 111ISP)
Office of Naval Research
800 North Quincy Street
Arlington, VA 22217-5000

Office of Naval Research,
Code 1142
800 N. Quincy St.
Arlington, VA 22217-5000

Office of Naval Research,
Code 1142B1
800 N. Quincy Street
Arlington, VA 22217-5000

Office of Naval Research,
Code 1142CS
800 N. Quincy Street
Arlington, VA 22217-5000
(6 Copies)

Office of Naval Research,
Code 1142PS
800 N. Quincy Street
Arlington, VA 22217-5000

Asst. for Long Range Reqs.
CNO Executive Panel (OP-00K)
4401 Ford Avenue
Alexandria, VA 22302-0268

Assistant for Planning and
Technology Development
Office of the DCNO(MPT) (OP-01B2)
Department of the Navy
Washington, DC 20350-2000

Deputy Director Total Force
Training and Education Div.
Office of the DCNO(MPT) (OP-11B)
Department of the Navy
Washington, DC 20370-2000

Assistant for Training Technology
and Human Factors
Office of the DCNO(MPT) (OP-11B1)
Department of the Navy
Washington, DC 20350-2000

Head, Military Compensation
Policy Branch
Office of the DCNO(MPT) (OP-134)
Department of the Navy
Washington, DC 20370-2000

Deputy Director Military
Personnel Policy Division
Office of the DCNO(MPT) (OP-13B)
Department of the Navy
Washington, DC 20370-2000

Head,
Family Support Program Branch,
OP 156
1300 Wilson Blvd., Room 828
Arlington, VA 22209

Head, Manpower, Personnel,
and Training Branch
Office of the CNO (OP-811)
4A478, The Pentagon
Washington, DC 20350-1000

Assistant for Manpower
and Training
Office of the CNO (OP-987H)
5E683, The Pentagon
Washington, DC 20350

Dr. Judith Orasanu
Basic Research Office
Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

Dr. Jesse Orlansky
Institute for Defense Analyses
1801 N. Beauregard St.
Alexandria, VA 22311

Assistant for Training and
Personnel Technology
Office of the Under Secretary of
Defense for Research & Engrg.
3D129, The Pentagon
Washington, DC 20301-3080

Dr. Peter J. Pashley
Educational Testing Service
Rosedale Road
Princeton, NJ 08541

Wayne M. Patience
American Council on Education
GED Testing Service, Suite 20
One Dupont Circle, NW
Washington, DC 20036

Dr. James Paulson
Department of Psychology
Portland State University
P.O. Box 751
Portland, OR 97207

Director, Center for Personnel
Security Research
Suite E, Building 455
99 Pacific Street
Monterey, CA 93940-2481

Dept. of Administrative Sciences
Code 54
Naval Postgraduate School
Monterey, CA 93943-5026

Department of Operations Research,
Naval Postgraduate School
Monterey, CA 93940

Dr. Mark D. Reckase
ACT
P. O. Box 168
Iowa City, IA 52243

Dr. Malcolm Ree
AFHRL/MOA
Brooks AFB, TX 78235

Mr. Steve Reiss
N660 Elliott Hall
University of Minnesota
75 E. River Road
Minneapolis, MN 55455-0344

Dr. Carl Ross
CNET-PDCD
Building 90
Great Lakes NTC, IL 60068

Dr. J. Ryan
Department of Education
University of South Carolina
Columbia, SC 29208

Dr. Eduardo Salas
Human Factors Division (Code 712)
Naval Training Systems Center
Orlando, FL 32813-7100

Dr. Fumiko Samejima
Department of Psychology
University of Tennessee
310B Austin Peay Bldg.
Knoxville, TN 37916-0900

Mr. Drew Sands
NPRDC Code 62
San Diego, CA 92152-6800

Dr. Walter Schneider
Learning R&D Center
University of Pittsburgh
3939 O'Hara Street
Pittsburgh, PA 15260

Lowell Schoer
Psychological & Quantitative
Foundations
College of Education
University of Iowa
Iowa City, IA 52242

Dr. Mary Schratz
4100 Parkside
Carlsbad, CA 92008

Dr. Dan Segall
Navy Personnel R&D Center
San Diego, CA 92152

Mr. Robert Semmes
N218 Elliott Hall
Department of Psychology
University of Minnesota
Minneapolis, MN 55455

Dr. Robin Shealy
Illinois State Water Survey
Room 149
2204 Griffith Dr.
Champaign, IL 61820

Dr. Kazuo Shigemasa
7-9-24 Kugenuma-Kaigan
Fujisawa 251
JAPAN

Dr. Randall Shumaker
Naval Research Laboratory
Code 5510
4555 Overlook Avenue, S.W.
Washington, DC 20375-5000

Dr. H. Wallace Sinaiko
Manpower Research
and Advisory Services
Smithsonian Institution
801 North Pitt Street, Suite 120
Alexandria, VA 22314-1713

Dr. Richard E. Snow
School of Education
Stanford University
Stanford, CA 94305

Dr. Richard C. Sorensen
Navy Personnel R&D Center
San Diego, CA 92152-6800

Dr. Judy Spray
ACT
P.O. Box 168
Iowa City, IA 52243

Dr. Martha Stocking
Educational Testing Service
Princeton, NJ 08541

Dr. Peter Stokoff
Center for Naval Analysis
4401 Ford Avenue
P.O. Box 16268
Alexandria, VA 22302-0268

Dr. William Stout
University of Illinois
Department of Statistics
101 Illini Hall
725 South Wright St.
Champaign, IL 61820

Dr. Lawrence J. Stricker
Educational Testing Service
Princeton, NJ 08541

Dr. Hariharan Swaminathan
Laboratory of Psychometric and
Evaluation Research
School of Education
University of Massachusetts
Amherst, MA 01003

Mr. Brad Sympeon
Navy Personnel R&D Center
Code-62
San Diego, CA 92152-6800

Dr. John Tangney
AFOSR/NL, Bldg. 410
Bolling AFB, DC 20332-6448

Dr. Kikumi Tatsuoka
Educational Testing Service
Mail Stop 03-T
Princeton, NJ 08541

Dr. Maurice Tatsuoka
Educational Testing Service
Mail Stop 03-T
Princeton, NJ 08541

Dr. David Thiessen
Department of Psychology
University of Kansas
Lawrence, KS 66044

Mr. Thomas J. Thomas
Johns Hopkins University
Department of Psychology
Charles & 34th Street
Baltimore, MD 21218

Mr. Gary Thomasson
University of Illinois
Educational Psychology
Champaign, IL 61820

Dr. Perry W. Thorndyke
FMC Corporation
Central Engineering Labs
1205 Coleman Avenue, Box 580
Santa Clara, CA 95052

Dr. Robert Tsutakawa
University of Missouri
Department of Statistics
222 Math. Sciences Bldg.
Columbia, MO 65211

Dr. Ledyard Tucker
University of Illinois
Department of Psychology
603 E. Daniel Street
Champaign, IL 61820

Dr. David Vale
Assessment Systems Corp.
2233 University Avenue
Suite 440
St. Paul, MN 55114

Dr. Frank L. Vioino
Navy Personnel R&D Center
San Diego, CA 92152-6800

Dr. Howard Wainer
Educational Testing Service
Princeton, NJ 08541

Dr. Michael T. Waller
University of Wisconsin-Milwaukee
Educational Psychology Department
Box 413
Milwaukee, WI 53201

Dr. Ming-Mei Wang
Educational Testing Service
Mail Stop 03-T
Princeton, NJ 08541

Dr. Thomas A. Warm
FAA Academy AAC934D
P.O. Box 25082
Oklahoma City, OK 73125

Dr. Brian Waters
HumRRO
1100 S. Washington
Alexandria, VA 22314

Dr. David J. Weiss
N660 Elliott Hall
University of Minnesota
75 E. River Road
Minneapolis, MN 55455-0344

Dr. Ronald A. Weitzman
Box 146
Carmel, CA 93921

Major John Welsh
AFHRL/MOAN
Brooks AFB, TX 78223

Dr. Douglas Wetzel
Code 51
Navy Personnel R&D Center
San Diego, CA 92152-6800

Dr. Rand R. Wilcox
University of Southern
California
Department of Psychology
Los Angeles, CA 90089-1061

German Military Representative
ATTN: Wolfgang Wildgrube
Streitkräfteamt
D-5300 Bonn 2
4000 Brandywine Street, NW
Washington, DC 20016

Dr. David Wiley
School of Education
Northwestern University
Evanston, IL 60201

Dr. Charles Wilkins
Navy Personnel R&D Center
Code 13
San Diego, CA 92152

Dr. Bruce Williams
Department of Educational
Psychology
University of Illinois
Urbana, IL 61801

Dr. Kent E. Williams
Inst. for Simulation and Training
University of Central Florida
P.O. Box 25000
Orlando, FL 32816-0544

Dr. Mark Wilson
School of Education
University of California
Berkeley, CA 94720

Dr. Hilda Wing
Federal Aviation Administration
800 Independence Ave, SW
Washington, DC 20591

Mr. John H. Wolfe
Navy Personnel R&D Center
San Diego, CA 92152-6800

Dr. George Wong
Biostatistics Laboratory
Memorial Sloan-Kettering
Cancer Center
1275 York Avenue
New York, NY 10021

Dr. Wallace Wulfek, III
Navy Personnel R&D Center
Code 51
San Diego, CA 92152-6800

Dr. Kentaro Yamamoto
02-T
Educational Testing Service
Rosedale Road
Princeton, NJ 08541

Dr. Wendy Yen
CTB/McGraw Hill
Del Monte Research Park
Monterey, CA 93940

Dr. Joseph L. Young
National Science Foundation
Room 320
1800 G Street, N.W.
Washington, DC 20550

Mr. Anthony R. Zara
National Council of State
Boards of Nursing, Inc.
625 North Michigan Avenue
Suite 1544
Chicago, IL 60611

Dr. Steven Zornetzer
Office of Naval Research
Code 114
800 N. Quincy St.
Arlington, VA 22217-5000